January 1968

Rated Pleasantness and Association Value of 101 English Nouns

Albert Silverstein
University of Rhode Island,

Richard A. Dienstbier
University of Nebraska-Lincoln, rdienstbier2@unl.edu

Published in *Journal of Verbal Learning and Verbal Behavior* 7 (1968), pp. 81-86. Continued by the *Journal of Memory and Language*: http://www.sciencedirect.com/science/journal/0749596X

Rated Pleasantness and Association Value of 101 English Nouns [1]

Albert Silverstein and Richard A. Dienstbier

University of Rhode Island, Kingston, Rhode Island 02881

Ratings of pleasantness (PL) on a 7-point scale and of association value (a′) on a 5-point scale are reported for 101 two-syllable nouns. The ratings were obtained from two samples of 100 women each and two samples of 100 men each. Sizable differences were obtained between words on both scales. For women and men respectively, PL and a′ were correlated .570 and .585; PL and printed frequency were correlated .233 and .207; frequency and a′ were correlated .533 and .764. Women's and men's ratings correlated .973 for PL and .899 for a′.

Despite the challenging papers of Johnson, Frincke, and Martin, and Johnson, Thomson, and Frincke (1960, 1961), very little recent work has been reported on the influence of pleasantness of materials on recognition or verbal learning. Perhaps this is due partly to an absence of a standardized set of pleasantness norms for a large sample of verbal materials. The items presented by Johnson *et al.* do not constitute a sample large enough to allow investigators much choice. The emotionality ratings of dissyllables reported by Noble (1958) are not based upon a sufficiently continuous scale; his *S*s could respond only "pleasant," "neutral," or "unpleasant." The few recent studies of the relation between affect and verbal learning have used nonsense syllables, and Keppel's study (1963) has been criticized for not employing a wide enough range of affective variation (Silverstein and McCreary, 1964). The latter authors used nonsense syllables also, but in this case the differences in pleasantness were experimentally manipulated. In an effort to fill this obvious gap, the present paper reports rated pleasantness values for 101 two-syllable nouns. Rated association values also were obtained for these words. Since meaningfulness is such a potent determiner of learning speed, it is important that investigators be able to select various combinations of pleasantness and meaningfulness of words to be used. In addition, further information on the correlation between meaningfulness and pleasantness could be obtained.

Method

Ninety-five of the words presented here were obtained by randomly selecting two-syllable nouns from the Thorndike and Lorge Teacher's Wordbook (1944). Six of the words were added to increase the affective range. The words were rated for association value (a′) by 100 male and 100 female students at the University of Rhode Island, and by different samples of 100 men and 100 women students for pleasantness (PL). The instructions used for the a′ ratings were very similar to those used by Noble (e.g., 1961) except that the example words used were "Green" and "Glonoin." The *S*s rated how many associations each word gave them by checking one of the following categories: (a) none, (b) below average, (c) average, (d) above average, and (e) very many. They were not allowed to go back to change any of their ratings.

The *S*s used a thermometer-type scale to rate the subjective pleasantness of the words (Guilford, 1954). The categories are: (a) very unpleasant, (b) moderately unpleasant, (c) slightly unpleasant, (d) neutral, (e) slightly pleasant, (f) moderately pleasant, and (g) very pleasant. The *S*s were instructed to treat the categories as equally spaced and to judge each word independently of their previous

[1] This research was supported by grant MH 08974 from the National Institute of Mental Health, U.S. Public Health Service.

TABLE 1

Mean Ratings of Association Value, Pleasantness and Lorge Frequency-Counts for 101 English Nouns

	Word	L-Count	a'		PL	
			Women	Men	Women	Men
1.	Angel	140	3.19	3.31	5.99	5.76
2.	Answer	2132	2.97	3.53	4.44	4.64
3.	April	297	3.62	3.71	5.89	5.65
4.	Arbor	29	2.20	2.24	4.73	4.53
5.	Baby	1430	4.17	3.77	6.47	5.49
6.	Beauty	776	4.10	4.26	6.23	6.39
7.	Beggar	63	2.83	3.09	2.33	2.82
8.	Biscuit	132	2.60	2.97	4.38	4.57
9.	Bodice	21	2.60	2.31	4.07	4.24
10.	Boulder	13	2.37	2.78	5.07	5.12
11.	Breakfast	539	3.41	3.63	3.38	3.62
12.	Building	1014	3.47	4.03	4.13	4.31
13.	Caress	75	3.71	3.54	6.30	6.34
14.	Carrot	96	2.76	3.03	4.27	4.40
15.	Center	641	2.87	3.12	4.25	4.59
16.	Chemist	32	2.83	3.39	3.66	4.11
17.	Christmas	430	4.48	4.20	6.33	6.13
18.	Circle	388	3.02	3.28	4.11	4.27
19.	City	1258	4.36	4.39	4.54	4.46
20.	Client	134	2.71	3.00	4.01	4.24
21.	Collar	243	2.73	3.11	3.76	3.99
22.	Color	1541	4.13	4.01	5.49	5.40
23.	Comfort	508	3.53	3.69	6.24	6.04
24.	Comment	287	2.86	3.11	4.02	4.20
25.	Concern	450	3.16	3.34	3.84	4.05

TABLE 1
continued

	Word	L-Count	a'		PL	
			Women	Men	Women	Men
26.	Corner	899	2.73	3.03	3.49	3.77
27.	Cotton	577	3.33	3.17	4.56	4.64
28.	Country	1714	4.07	4.04	5.84	5.68
29.	Courage	349	3.32	3.77	5.77	5.83
30.	Dancer	87	3.52	3.39	5.52	5.46
31.	Defect	47	2.81	3.07	2.36	2.85
32.	Delight	353	3.73	3.53	6.34	6.03
33.	Device	144	2.66	3.27	3.89	4.43
34.	Dinner	1266	3.71	3.60	5.62	5.57
35.	Discord	14	2.36	2.31	2.45	3.01
36.	Divorce	312	3.09	3.02	1.46	2.11
37.	Emerald	61	3.11	2.95	5.84	5.38
38.	Evening	2087	4.08	3.89	6.13	5.73
39.	Family	1976	4.44	4.23	6.36	5.66
40.	Figure	1202	3.54	3.84	4.55	5.20
41.	Flower	902	4.13	4.04	6.34	5.69
42.	Fragrance	70	3.48	3.29	5.99	5.40
43.	Garden	1036	3.89	3.61	5.82	5.04
44.	Grocer	31	3.19	3.39	4.17	4.39
45.	Habit	462	3.09	3.29	3.41	3.70
46.	Hunger	93	3.29	3.44	2.12	2.60
47.	Husband	1788	4.27	4.20	6.41	5.68
48.	Insect	91	3.47	3.58	2.37	2.85
49.	Ivory	91	2.77	3.04	5.75	5.41
50.	Jewel	150	3.69	3.55	5.78	5.49
51.	Justice	181	3.23	3.57	5.88	5.23
52.	Kindness	115	3.71	3.71	6.37	6.20
53.	Lotion	30	2.87	2.66	5.06	4.84

TABLE 1
continued

	Word	L-Count	a'		PL	
			Women	Men	Women	Men
54.	Mallet	17	2.21	2.44	3.36	3.76
55.	Model	244	3.31	3.46	4.69	5.05
56.	Moment	2396	2.79	3.20	4.54	4.34
57.	Morning	2015	3.74	3.87	5.22	5.17
58.	Mother	3993	4.36	4.27	6.20	5.93
59.	Mountain	288	3.62	3.84	5.53	5.64
60.	Music	660	4.21	3.99	6.26	5.96
61.	Object	394	3.33	3.49	3.85	4.06
62.	Office	1640	3.67	3.54	3.79	4.13
63.	Ordeal	57	2.86	3.01	2.18	2.70
64.	Oven	326	3.20	3.10	4.26	4.11
65.	Panel	102	2.70	2.94	3.89	4.09
66.	Paper	1235	3.40	3.81	4.03	4.06
67.	Partner	225	3.40	3.53	5.38	5.51
68.	Party	1442	4.16	4.21	5.85	5.91
69.	Passage	171	2.73	3.01	4.28	4.41
70.	Patriot	11	2.93	3.27	5.28	5.54
71.	Pencil	186	3.09	3.32	3.98	4.17
72.	People	3574	4.45	4.49	5.81	5.23
73.	Perfume	150	3.52	3.43	5.84	5.60
74.	Pleasure	442	4.04	4.10	6.31	6.43
75.	Progress	365	3.27	3.43	5.61	5.50
76.	Quota	29	2.77	3.04	3.60	3.86
77.	Scandal	99	3.10	3.00	1.77	2.47
78.	Shadow	491	2.91	3.08	3.94	4.15
79.	Shoulder	1135	2.75	3.03	4.75	4.79
80.	Silence	714	2.88	3.13	4.81	4.84
81.	Slipper	148	2.78	3.05	4.77	4.82

TABLE 1
continued

	Word	L-Count	a′		PL	
			Women	Men	Women	Men
82.	Statue	58	2.92	2.94	4.49	4.56
83.	Study	942	3.98	3.97	3.57	3.83
84.	Success	573	3.69	4.09	6.14	6.16
85.	Summer	783	4.64	4.46	6.55	6.30
86.	Sunday	529	3.88	3.84	5.42	5.34
87.	Sunshine	194	3.93	3.80	6.41	6.21
88.	Sweetheart	157	4.22	3.91	6.54	6.19
89.	Table	1325	3.31	3.57	4.12	4.04
90.	Toddler	3	3.82	3.36	6.11	5.52
91.	Tower	201	2.86	3.31	4.54	4.56
92.	Trouble	1180	3.56	3.86	1.73	2.44
93.	Valley	289	3.13	3.32	5.44	5.35
94.	Wafer	16	2.33	2.53	4.38	4.20
95.	Wagon	325	3.01	3.10	4.13	4.04
96.	Water	2067	3.88	4.00	5.47	5.42
97.	Window	1564	3.16	3.50	4.76	4.74
98.	Wisdom	139	3.31	3.57	6.17	5.94
99.	Woman	2431	4.29	4.44	5.20	6.37
100.	Worker	429	3.53	3.68	4.27	4.20
101.	Zenith	2	2.40	2.72	4.87	4.94

ratings. As in the a′ ratings *S*s were told to silently pronounce each word first.

The procedures were the same for both sets of ratings. Groups of 12–20 *S*s rated the words. Total time per session was between 20 and 25 min. The *S*s were allowed to work at their own pace, but were urged to work quickly. Seven different random orders of presentation of words were used for each of the ratings, with the restriction that no word appear in the first or last ten in more than one order. Each word was dittoed on a separate page, and the total list was presented to *S*s in booklets of 20. The *S*s were instructed to take a few seconds' rest after completing each booklet.

Results

Table I presents the means of the men's and women's a′ and PL ratings for each word, along with its Thorndike-Lorge frequency. Higher values represent greater degrees of pleasantness and meaningfulness. A large degree of variation among words was found for both rated dimensions. The variabilities of the ratings from one word to the next did not differ greatly. For both men and women, 88 of the words' PL ratings had *SD* values ranging from 0.79 to 1.39. The largest *SD* was 1.73 and the

median was 1.23. For the a′ ratings, 99 of the words had *SD*s of between 0.67 and 1.08. The largest *SD* was 1.29, and the median was 0.93. Overall reliability of the ratings was fairly high. Split-half reliability coefficients were .861 and .854 for a′, and .818 and .886 for PL, with women and men, respectively.

The three variables were found to be reliably correlated with each other. PL and a′ showed product-moment correlation coefficients of .570 ($p < .01$) for the women and .585 ($p < .01$) for the men. PL and Lorge Count were correlated .233 ($p < .025$) for the women and .207 ($p < .025$) for the men. Lorge Count was correlated with a′ .533 ($p < .01$) for the women and .764 ($p < .01$) for the men. The correlations presented by Johnson *et al.* (1960) between pleasantness and frequency were .38, .40, and .63; roughly the same order of magnitude as that presented here. That the correlation between a′ and frequency fell so far short of unity is to be expected from Noble's (1963) discussion of this relation. Despite the fact that scatterplots of the relation between PL and a′ showed a tendency for very unpleasant words to be given higher a′ values than neutral words, correlations between a′ and distance from affective neutrality failed to increase the values of *r* more than .02 above those obtained for a′ and PL. These values are in close approximation to the correlation obtained by Noble (1958) between emotionality and meaningfulness (defined by the production method). These correlations make it clear that independent manipulation of words' pleasantness and meaningfulness is not easily accomplished.

The ratings given by the men and women were correlated .973 for PL and .899 for a′. These values are slightly higher than the reliability coefficients obtained and indicate that there is great interchangeability possible in items used for men and women college students.

REFERENCES

Guilford, J. P. *Psychometric methods* (2nd Ed.) New York: McGraw-Hill, 1954

Johnson, R. C., Frincke, G., and Martin, L. Meaningfulness, frequency and affective character or words as related to visual duration threshold. *Canad. J. Psychol.,* 1961, **15**, 199–204.

Johnson, R. C., Thomson, C. W., and Frincke, G. Word values, word frequency and visual duration threshold. *Psychol. Rev.,* 1960, **67**, 332–342.

Keppel, G. Word value and verbal learning. *J. verb. Learn. verb. Behav.,* 1963, **1**, 353–356.

Noble, C. E. Emotionality (e) and meaningfulness (m), *Psychol. Rep.,* 1958, **4**, 16.

Noble, C. E. Meaningfulness and familiarity. In Cofer, C. N. (Ed.), *Verbal behavior and learning: problems and processes.* New York: McGraw-Hill, 1963.

Noble, C. E. Measurements of association value (a), rated association value (a′) and scaled meaningfulness (m′) for the 2100 CVC combinations of the English alphabet. *Psychol. Rep.,* 1961, **8**, 487–521. (Monogr. Suppl. 3–v8).

Silverstein, A., and Mccreary, C. Acquired word value and verbal learning. *Psychol. Rep.,* 1964,**14**, 499–504.

Thorndike, E. L., and Lorge, I. *The teacher's word book of 30,000 words.* New York: Teachers College, Columbia Univ. Press, 1944.

Submitted July 1966